PBEEEP
State Government

Public Buildings Enhanced Energy Efficiency Program

SCREENING RESULTS FOR MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE FERGUS FALLS

M | State
One College. Four Campuses. Online.

Date: 06/14/2010

1.0 Screening Summary

Table A: Site Summary

Facility Name	M State Fergus Falls
Location	1414 College Way, Fergus Falls, MN 56537
Facility Manager	Joel Kotschevar
Number of Buildings	13
Interior Square Footage	165,862
PBEEEP Provider	Center for Energy and Environment (Angela Vreeland)
Date Visited	May 6, 2010
State Project Manager	Matt Sheppard
Annual Energy Cost	$155,767 (2009)
Annual Energy Usage	1,544,850 kWh (electricity), 99,447 Therms (natural gas)
Utility Company	Otter Tail Power Company (electricity), Great Plains Natural Gas Company (natural gas)
Site Energy Use Index (EUI)	96.4 kBtu/sq. ft.
Benchmark EUI (from B3)	144.9 kBtu/sq. ft.

Table B: Building Summary

Building Name	State ID	Area (Square Feet)
Student Services	E26142C0168	8,861
College Center (Old Fine Arts)	E26142C1206	30,169
Science and Health (old)	E26142C0268	10,740
Administration	E26142C0368	6,100
Physical Education	E26142C0469	21,100
Library	E26142C0571	20,700
Waage Fine Arts	E26142C0671	19,031
Science Addition	E26142C0774	14,000
1991 Addition	E26142C0891	18,169
Maint- 3 Stall Garage	E26142C1174	1,936
Expand existing garage	E26142C1004	1,950
Science Addition	E26142C0994	7,000
Tunnels	E26142C1269	6,106

1.1 Recommendations:

A detailed investigation of the energy usage and energy savings opportunities of the thirteen buildings at Minnesota Community and Technical College (M State) Fergus Falls is not recommended at this time. This is primarily due to a recent recommissioning study that was completed at the facility in December 2009 and due to the fact that the facility energy use is relatively low at this time. Because PBEEEP is structured to evaluate building energy use and determine energy savings opportunities through recommissioning, it would require additional

effort to complete the energy study portion of the project, and due to the expectation of limited energy savings opportunities, may not be cost-effective to proceed.

2.0 Minnesota State Community and Technical College Fergus Falls Screening Overview

M State Fergus Falls is made up of seven separate groupings of buildings that over the years were connected to become one main building. There is one small detached garage that is 3,886 square feet. Table C below lists the known equipment on the campus; it is incomplete because a full screening was not conducted. Based on reported information from the application, there is a combination of pneumatic and DDC actuation and control in the building.

Table C: Mechanical Equipment Summary

Quantity	Equipment
1	Johnson Controls Metasys Building Automation System (controls main building)
22	Air Handlers
2	Rooftop Units
Unknown	VAV Boxes
3	Chillers- electric
6	Condensing Units
3	Hot Water Boilers- natural gas
1	Steam Boiler- natural gas

The screening process is designed to determine the likelihood that an energy investigation will lead to a cost-effective project that produces energy savings. A full screening of the buildings at this facility was not conducted and this facility is not recommended for investigation for the following key reasons:

- A recommissioning study had recently been done on the facility in 2009. As it stands, the recommissioning study does not satisfy PBEEEP data collection and documentation requirements because trending was not used to evaluate equipment operation or to calculate savings estimates. PBEEEP would require additional energy study investigative activities, resulting in rework and additional costs overall to the Agency to complete the energy study. PBEEEP is designed to protect the interests and meet the needs of the Agency, and is structured to maintain, as far as possible, a budget-neutral budget status for the Agency. This is achieved by applying dollar savings from the implementation of energy conservation measures to the lease-purchase financing agreement. Extensive collection of baseline energy use data and subsequent analysis to calculate energy savings – updated energy use – is critical prior to the Agency entering into these financing agreements.
- The recommissioning study that was done in 2009 indicates that the potential energy savings in the facility may not be sufficient to move forward with a cost-effective project at this time. Additional work will increase the cost and make it less likely to be cost-

effective. Three of the recommendations were related to deferred maintenance items and one recommendation was to update the pneumatic controls to DDC. This indicates that although there may be energy savings opportunities, it is likely that the facility needs to be updated and maintained before those savings can be achieved and sustained effectively. In addition, recommissioning is most effective when a building has an updated automation system.

- Support and engagement of building staff is an important component of PBEEEP to help streamline and inform the investigative process and assure persistence of savings at the completion of the project and through the financing period. To a limited extent, PBEEEP staff were on-site and able to interact with building staff, and the general perception was that building staff did not appear to fully support an additional energy study following the recent 2009 study. PBEEEP's assessment would align with the concern of additional burden on building staff resources due to the need for some duplicated investigation effort. The facility uses 66.5% of the B3 benchmark and for the space usage, a relatively low EUI, which initially indicates that there may not be significant energy savings potential at this time.

PBEEEP recommends that the building operations staff consider further review of the deferred maintenance related activities identified through the 2009 recommissioning study, and if these are found to be relevant and are feasible to execute, consider completing implementation and integration of these activities into the on-going maintenance planning. In addition, PBEEEP recommends continuous monitoring and evaluation of facility performance (using the MN B3 Benchmarking or Energy Star Portfolio Manager systems, internal tracking tools, and/or building monitoring systems in place). If facility usage or occupancy changes go into effect or changes in energy use or occupant comfort complaints are observed, these could be addressed through PBEEEP in the future.